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09/810,353	03/16/2001	David K. Sturley	873A 3024	9204

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EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 06/05/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,353

Applicant(s)

STURLEY, DAVID K.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The portion of claim 7 stating "a part of M may be replaced with at least one alkaline earth metal selected from the group consisting of Mg, Ca, and Ba" is not clear. It is not understood why M, which is an alkaline earth metal, would be replaced with Mg, Ca, or Ba which are also alkaline earth metals. Clarification is required.

5. Claim 9 recites the limitation "adhesive light transmissive material". Claims 1 and 2 upon which claim 9 depend fails to recite an "**adhesive** light transmissive material". There is insufficient antecedent basis for this limitation in claim 9.

6. The term "top" in claim 10 is a relative term, which renders the claim indefinite. The term "top" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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7. The term "bottom" in claim 11 is a relative term, which renders the claim indefinite. The term "bottom" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Clarification and/or correction are required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami (U.S. Patent No. 5,811,174). Murakami discloses a phosphorescent article comprising a first transparent resin layer, a phosphorescent layer, and a second transparent resin layer sequentially superposed on a supporting layer that is reflective (see abstract). The phosphorescent pigment of the phosphorescent layer is dispersed in a binder (see col. 6, lines 25-28) per the instant "layer of luminous material". The Murakami resin layers read upon the instant "piece(s) of light transmissive material". Resin material may comprise polyester per instant claims 3 and 4 (see col. 7, lines 24-26). A printed layer comprising a logo may be formed on the outside of the Murakami resin layer 5 per instant claim 5 (see col. 9, lines 31-35). A supporting layer 1 comprised of a metal sheet capable of reflecting light is formed adjacent a resin layer

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per instant claims 10 and 11 (see col. 5, lines 48-50 and 61-65). Murakami discloses all components recited in claims 1-5, 10, and 11.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (U.S. 5,118,174). Murakami is relied upon as set forth above. Murakami teaches a supporting reflective layer adjacent a reflective layer (see col. 5, lines 61-65), but fails to anticipate the layer is "partial or half silvered" as required by instant claim 9. Murakami does teach the supporting material may be comprised of metal which reads upon silver (see col. 5, lines 49-50) and that the supporting layer is printed (see col. 5, line 47) which reads upon a "partial" layer. It would have been obvious to one of ordinary skill in the art at the time of invention to have printed a partial, metallic silver layer on the resin layer, because all limitations of claim 9 are generally taught by Murakami et al.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (U.S. 5,811,174) in view of Royce (U.S. 5,376,303). Murakami is relied upon as set forth above for the rejection of claim 1. Murakami teaches a phosphorescent article comprising a first transparent resin layer, a phosphorescent layer, and a second transparent resin layer sequentially superposed on a supporting layer that is reflective (see abstract). The phosphorescent pigment of the phosphorescent layer is dispersed

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in a binder (see col. 6, lines 25-28) per the instant "layer of luminous material".

Murakami fails to teach the specific phosphorescent pigment formula recited in instant claim 6. Royce teaches long decay phosphors of the instant claim 6 formula for printing inks (see col. 1, line 39). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the phosphor disclosed by Royce for the luminescent layer of the Murakami article, because Murakami teach the use of phosphorescent printing inks for the luminescent layer.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (U.S. 5,811,174) in view of Hao (U.S. 5,885,483). Murakami is relied upon as set forth above for the rejection of claim 1. Murakami teaches a phosphorescent article comprising a first transparent resin layer, a phosphorescent layer, and a second transparent resin layer sequentially superposed on a supporting layer that is reflective (see abstract). The phosphorescent pigment of the phosphorescent layer is dispersed in a binder (see col. 6, lines 25-28) per the instant "layer of luminous material".

Murakami fails to teach the specific phosphorescent pigment formula recited in instant claim 7. Hao teaches a long afterglow phosphor of the instant claim 7 formula (see abstract). The Hao improved phosphors may be mixed into inks or paints (see col. 5, lines 16-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the phosphor disclosed by Hao for the luminescent layer of the Murakami article, because Murakami teach the use of phosphorescent printing inks for the luminescent layer.

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14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (U.S. 5,811,174) in view of Kaz (U.S. 6,177,029). Murakami is relied upon as set forth above for the rejection of claim 1. Murakami teaches a phosphorescent article comprising a first transparent resin layer, a phosphorescent layer, and a second transparent resin layer sequentially superposed on a supporting layer that is reflective (see abstract). The phosphorescent pigment of the phosphorescent layer is dispersed in a binder (see col. 6, lines 25-28) per the instant "layer of luminous material". Murakami fails to teach the specific phosphorescent properties of light emission recited in instant claim 8. Kaz teaches luminescent components which absorb energy from a light source at a first wavelength and re-radiate the absorbed light at a second wavelength spectrum (see abstract). Practical applications of the Kaz luminescent materials are for plastic components, liquid resins, paints, and printing inks (see abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the phosphor disclosed by Kaz for the luminescent layer of the Murakami article, because Murakami teach the use of phosphorescent printing inks for the luminescent layer.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (703)305-

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0788. The examiner can normally be reached Monday through Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703)-308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-2351.


D.G.

May 31, 2002

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

